AMENDMENTS TO THE SPECIFICATION

Please amend the Specification as follows, where current additions are noted with underlined text and current deletions are indicated by ~~strikethrough~~ or [bracketed] text.

I-Amendments to Paragraph 7 (page 3, lines 5-8)

"[0007] In some embodiments, the fullerene-based amino acids of the present invention comprise fullerene species that are endohedrally-doped with one or more dopant species. Such dopant species include, but are not limited to, radioactive species, non-radioactive species, ~~meatls~~ metals, gases, spin 1/2 nuclei, and combinations thereof."

II-Amendments to Paragraph 24 (page 4, lines 23-24)

"[0024] FIG. 12 depicts the synthesis of fullerene peptide I (SEQ ID NO. 1) in accordance with an embodiment of the present invention; and"

III-Amendments to Paragraph 48 (page 10, lines 3-13)

"[0048] Approximately 50 mg N-Ac-Fullerecine ~~Fullericine~~-OMe was added to a Schlenk flask equipped with a magnetic stir bar. The solid was degassed under vacuum and then dissolved in 25 mL CH_2Cl_2 and cooled to -10 ^oC. under an argon atmosphere. Approximately 5 mL of 1M BBr_3 in CH_2Cl_2 was added dropwise through a needle transfer with stirring. A dark brown precipitate resulted. Stirring continued at -10 ^oC for 1 hr and at 25 ^oC for 2 hr. The reaction was quenched by the careful dropwise addition of 25 mL of water. The solids remained between the interface of the water and the CH_2Cl_2. The solids were centrifuged out, then washed with 6 M HCl (10 mL x 2) with sonication. The residue was further washed with DI water (25 mL x 3). The decanted liquid portion was a clear yellow solution that indicated that the produced fullerecine was soluble in H_2O. The solubility is estimated to be about 0.1 mg/mL."

IV-Amendments to Line Immediately Above Paragraph 52 (page 12, lines 12-13)

"Synthesis of Fullerene Peptide I (Glu-Ile-Ala-Gln-Leu-Glu-BAA-Glu-Ser-Gln-Ala-Ile-Glu-NH_2) (SEQ ID NO. 1)"

V-Amendments to Paragraph 52 (page 12, lines 14-32 and page 13, lines 1-2)

"[0052] The coupling of the first 6 residues of fullerene peptide I (SEQ ID NO. 3) was carried out on an automated APEX 396 Multiple Peptide Synthesizer (Advanced ChemTech) under nitrogen flow. 430 mg (0.3 mM) rink resin was used as solid phase. Each coupling involved a 4-fold amino acid excess, and HBTU, N-hydroxybenzotriazole (HOBT) as activators and diisopropylethylamine (DIEA) as base in a 1:1:1:3 ratio. Fmoc deprotection was performed using 20% ~~perperidine~~ piperidine in DMF solution. After the deprotection of the sixth residue (Glu) was finished, one sixth of the resin was moved out to a 25 ml fritted glass tube, swollen with DMF and a 3-fold excess of FmocBAA was dissolved in 9 ml DMF/CH_2Cl_2 (2:1). The Fmoc BAA solution was first activated with PyBOP/HOBT/DIEA (1:1:1:3) for 2 minutes, then mixed with the resin in the fritted glass tube, and shaken with an automated shaker for 1 day at room temperature. The resin was then washed thoroughly with DMF and CH_2Cl_2 to remove unreacted FmocBAA, and retransferred to the automated synthesizer reactor. Each subsequent Fmoc removal was performed by the synthesizer using a 5% DBU solution in DMF under nitrogen. The amino acid couplings were done using the same conditions reported above. The final peptide was cleaved twice from the solid support using 10 ml trifluoroacetic acid (TFA): triisopropylsilane (TISP):H_2O (98:1:1) for 4 h and 18 hrs. The crude fractions were washed with diethyl ether and lyophilized to remove TFA. The purification was carried out on an Varian C_4 column using a gradient of A: 0.1% TFA in water and B: 0.1% TFA in isopropanol, 0-100% B in 75 min at 5.0 ml/min flow rate. The elution time was 70 min. The yield was 8.5 mg. FIG. 12 illustrates the synthesis of fullerene peptide I."

VI-Amendments to Line Immediately Above Paragraph 53 (page 13, line 4)

"Synthesis of Fullerene Peptide II (BAA-Glu-Glu-Glu-Glu-Gly-GlyGly-Ser-COOH) (SEQ ID NO. 2)"

VII-Amendments to Paragraph 53 (page 13, lines 5-18)

"[0053] The couplings of first 7 residues after serine of fullerene peptide II (SEQ ID NO. 2) were carried out on an automated APEX 396 Multiple Peptide Synthesizer (Advanced ChemTech)

under nitrogen flow. 430 mg (0.3 mM) Fmoc-serine-rink resin was used as solid phase. Each coupling uses 4-fold amino acid excess, and HBTU, HOBT as activators and DIEA as base in a 1:1:1:3 ratio. Fmoc deprotection ~~depreotection~~ was performed using 20% ~~perperidine~~ piperidine in DMF solution. After the deprotection of the eighth residue (Glu) was finished, one sixth of the resin was moved out to a 25 ml fritted glass tube, wherein the resin was swollen with DMF. A 3-fold excess of BocBAA was then dissolved in 9 ml DMF/DCM (2:1). The Boc BAA solution was first activated with PyBOP/HOBT/DIEA (1:1:1:3) for 2 minutes. The activated Boc BAA was mixed with the resin in the fritted glass tube, and shaken on an automated shaker for 1 day at room temperature. Then, the resin was washed thoroughly with DMF and CH_2Cl_2 to remove unreacted ~~unrected~~ FmocBAA. The final peptide was cleaved twice from the solid support using 10 ml TFA:TISP:H_2O (98:1:1) for 4 hrs and 18 hrs. The crude fractions were washed with diethyl ether and lyophilized to remove TFA."